# Meadow Study

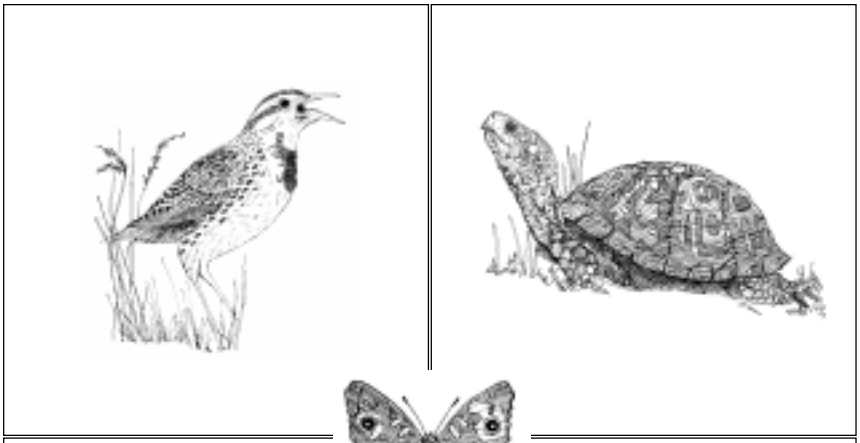
An amazing number of flying, hopping and crawling animals live in the meadow like grasshoppers, crickets, moths, butterflies, leafhoppers, flies, wasps, lady beetles, knats and even the meadow jumping mouse.

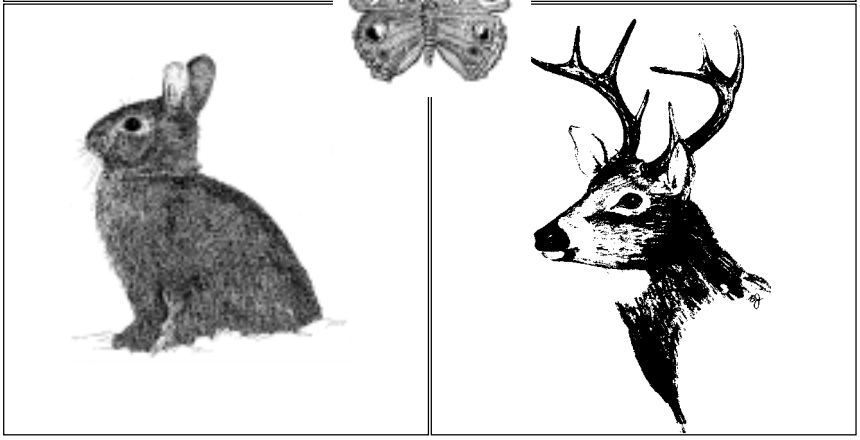
Wildflowers that require direct sunlight depend on the meadow habitat. Meadows also act as a buffer between farm fields and wetlands and filter out various pollutants. The plant diversity in a natural meadow will attract a greater variety of animals.









***Lesson Plan 5:***

# *Meadow Study*

**Activity 1: Insect and Plant Data Sheet - Background Information:** Using the sweep nets, sweep the grass for insects and other invertebrates. Transfer specimens to zip lock bag and observe with magnifying lens. You may transfer specimens to jar if bags get too full. Gather teams together and share what you have found. Try to key insects to order using attached "Ten Common Insect Orders" key.

NOTE: Butterflies hold their wings straight up when at rest and have antennae with clubs at the end; whereas moths hold their wings down and out at rest and have feathery antennae. Beetles have wings in a straight line down the back. True bugs are insects that have crossed wings or a shield on the back. Flies have 2 wings, bees have four.

**Date:** _____ **Team:** _____

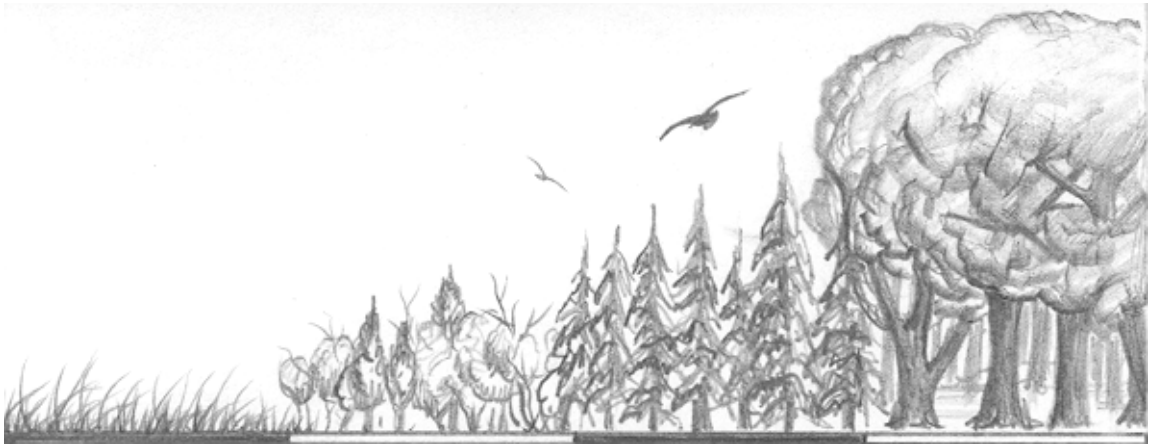
**Collecting Area:** _____ **Names:** _____

_____

| Types of Species | Number | Observations or Descriptions or Sketches |
|---|---|---|
| **Ant Types** | | |
| **Beetle Types** | | |
| **Grasshopper & Cricket Types** | | |
| **Bee Types** | | |
| **Dragonfly Types** | | |
| **Butterfly and Moth Types** | | |
| **Other Critters Spiders, worms, etc** | | |
| **Plants** | | |

## Activity 2: Habitat Study - Succession

**Background information:** Succession is the process that takes place in a habitat when it is left alone (undeveloped and not farmed) and the natural growing process prevails.



| 1 -10 | 10-25 | 25-100 | 100 + |
|---|---|---|---|
| Grassland | Shrubs | Pine Forest | Hardwood Forest |

**Forest Succession in Years**

Look for an area that has several types of habitats in walking distance. Spend 20 minutes in each area and record your observations.

**Abandonded Field Study:**
What types of plants do you find in this field? (for example: grass, weeds, shrubs, trees, vines, fungus, etc.)

What animals would you expect to find here? Search for signs of animals in this field (e.g. feathers, nests, droppings, tracks, partly eaten food,etc.) What did you find? Do you see or hear any animals?

Are there any trees in the field? Any young ones? What trees grow first in an abandoned field? Do the trees have buds, flowers, or fruits on them?

Look closely at the smaller plants. Do you see flowers, seeds, or fruits? What are the flowering seasons? When do fruits and seeds appear?

## Activity 2: Habitat Study - Succession, cont.

**Forest Study:**
What types of plants do you find in the forest? (Notice not only trees, but understory plants as well)
What signs of animals do you see?

Do you see any of the same plants in ther forest as you did in the field?

Are there plants in the field that you could not find in the forest? In the forest that you could not find in the field?

Why? Do you think any environmental factors (eg. light, moisture, temperature) control this?

How many types of fungi could you find? What are some differences between fungus and flowering plants?

**Edge Study:**
An edge is the transition strip between field and forest or between any two habitats. Walk along the edge. Is there a gradual transition from field to forest or is it abrupt? Does it depend on the type of plant? Estimate the distance in feet of the edge? What plants do the forest and field have in comon?

**Comparison Study:**
Bring back the 10 most abundant plants (work in groups rather than individually) of the field; 10 most abundant of the forest (when representing a tree, bring back a twig or spray of leaves). Are they all different? Make up your own classification system:

Pick one characteristic that will divide the group in half. Do this several times. For example: